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Sally J. Brown  
Attorney for Applicant

PATENT  
Docket No. 14097

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Edward Friery and Brett Garner	)	
		)	
Serial No.:	09/677,058	)	
		)	
Filed:	September 29, 2000	)	
		)	
For:	AIRBAG PRODUCTS WITH	)	Group Art
	NONLINEAR TEAR SEAMS	)	Unit 3611
		)	
Examiner:	Lee S. Lum	)	

DECLARATION UNDER 37 C.F.R. § 1.132

Box Non-Fee Amendment  
Assistant Commissioner  
for Patents  
Washington, D.C. 20231

**RECEIVED**  
JUL 13 2004  
**GROUP 3600**

Dear Sir:

I, Edward Friery, declare as follows:

1. I am one of the inventors of the subject matter described and claimed in the above-identified patent application (the "Application"). I have been developing and testing airbag covers for more than five years.

2. Airbags are often located within the steering wheel or dashboard of a vehicle. Seams through which the cushions emerge into the passenger compartment are required to enable consistent positioning of the cushions in the event of an accident.

3. Unfortunately, these seams are visible because the outer cosmetic layer that normally covers the seams indents and deforms toward the seams. This undesired consequence is frequently referred to as the seam "read-through" problem. The visible indentations created by these seams distract from the overall aesthetic scheme of the interior of the vehicle.

4. Furthermore, as the vehicle ages, these indentations will often increase in size as the outer cosmetic layer deforms more completely into the underlying seam. In addition, these seams are frequently placed in conspicuous locations in the vehicle to provide optimal deployment positioning of the airbag cushion, making the visible indicia of these seams even more distracting.

5. The outer cosmetic layer on the steering wheel, where a seam is frequently positioned, is generally quite thin and flexible to enable convenient activation of the horn. Accordingly, the seam read-through problem is often quite pronounced in this highly visible area of the vehicle.

6. I have been involved in developing systems for concealing these seams and elimination of the seam "read-through" problem for more than five years. To my knowledge, concealing these seams has been a recognized problem in the airbag industry for at least seven and a half years. In fact, I was hired by a predecessor of Autoliv ASP Inc., the assignee of the present Application, to resolve this and other problems related to the airbag covers more than seven and a half years ago.

7. One proposed solution to this problem is to place a styling line over the seam. However, this approach is unacceptable because the interior styling of the vehicle must then conform to the newly created style line. In other words, the seams continue to dictate and affect

the interior styling of the vehicle. Thus, this potential solution does not resolve, but merely perpetuates, the problem.

8. In initially addressing the seam read-through problem, I increased the quality and stiffness of the outer cosmetic layer. While this approach decreased the problem, the seam was still visible in many cases.

9. Accordingly, I needed to take a new, innovative approach to fully resolve this problem. The industry standard is a straight or linear tear seam. However, in the process of addressing this problem, Brett Garner, a co-inventor, and I conceived the concept that is the subject matter of the present Application, namely, to redesign the underlying seam to make it nonlinear.

10. However, this proposed solution ran contrary to conventional thinking in the industry. It was widely believed that nonlinear tear seams would not permit proper deployment of the cushion. In particular, it was believed that upon deployment of the cushion, the cover would tear outside of the nonlinear seam such that the cushion would deploy in an unpredictable manner. Even my supervisor, who was a highly experienced and very capable engineer, believed that this would be the case. However, subsequent testing has shown that this is not the case.

11. More importantly, subsequent testing has shown that by making this simple design change and increasing the stiffness of the outer layer, the read-through problem was eliminated. Only by pressing the outer layer with a great deal of force is the underlying seam visible. In addition, in such a scenario, only small portions of the seam are visible at a given time, and the seam was not discernible when the outer layer returns to its normal position. This solution is cost-effective, easy to implement, and provides outstanding results.

12. While this solution to the long-standing problem of seam read-through may seem simple, this simplicity is one of the key advantages of this invention. It is easy and inexpensive to implement in practice.

13. This problem is well known and persistent. As evidence of this, I regularly receive telephone calls from other employees of Autoliv ASP Inc. or its foreign counterparts who are seeking a solution to the problem of seam read-through.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing therefrom.

DATED this 31 day of March 2003.

  
Edward Friery